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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/784,774

02/24/2004

Sung-Jun Moon

P-0644

8342

34610

7590

11/17/2006

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EXAMINER

SHEDRICK, CHARLES TERRELL

ART UNIT

PAPER NUMBER

2617

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/784,774	MOON, SUNG-JUN	
	Examiner	Art Unit	
	Charles Shedrick	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 12-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 17-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 1-11 and 17-40 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims **1-7, 21-28, and 30-40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiedeman et al. US Patent 6,272,316 B1, "Wiedeman", hereinafter in view of Smith et al., hereinafter, 'Smith', Smith et al., US Patent Pub. No.: 2003/0187523 A1

Consider **claim 1**, Wiedeman teaches a mobile terminal **13** (i.e., see **figures**), comprising: a memory (i.e., see **col. 10 line 19**); a display unit **13a** (i.e., see figure 1A and other figures showing display unit); a direction measurement unit which periodically measures a direction that the mobile terminal is pointed (i.e., the direction measurement unit is inherently built into the

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user terminal. The direction in which the mobile is pointed is being measured as part of the measurement in addition to received signal strengths from other directions)(i.e., see **abstract, col. 1 lines 55-65, col. 2 lines 44-51**); a received signal strength indicator which measures a received signal strength in the direction the mobile is pointed (i.e., the received strength of the mobile unit in the direction it is pointed is included in the received signal strength considering even if the signals are received from multiple directions)(i.e., see **col. 8 lines 42-49, col. 10 lines 21-31**); and a controller **13g (i.e., computer module)** which controls the memory to store a newly-measured direction of the mobile terminal and a corresponding received signal strength when the mobile changes direction (**claim 32,33,col.12 lines 5-12, col. 13 line 15, col. 14 line 48, col. 16 line 14**) and controls the display unit to display a receiving sensitivity graph which indicates signal strength and direction(**claim 32,33, col.12 lines 5-12, col. 13 line 15, col. 14 line 48, col. 16 line 14**).

However, Wiedeman does not teach displaying new measurements simultaneously with at least one previously stored measurement.

In analogous art, Smith teaches displaying new measurements simultaneously with at least one previously stored measurement (i.e., see at least paragraphs 0061 –0075).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Wiedeman to include displaying new measurements simultaneously with at least one previously stored measurement for the purpose of analyzing the data represented by the previous and current measurements as taught by Smith.

Consider **claim 6**, Wiedeman teaches a method for displaying a receiving sensitivity in a mobile terminal (i.e., the mobile terminal **13** has a display **13a** for displaying representations to

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the operator)(i.e., see **abstract, col.3 lines 20-26, lines 50-56**), comprising: periodically checking a direction of a mobile terminal (**col. 2 lines 44-46, col. 4 lines 21-28, col. 6 lines 44-47, col. 7 lines 30-32, col. 9 lines 25-33, lines 60-65, etc.**); measuring a received signal strength of a new direction when the mobile terminal changes direction(i.e., see **at least col. 8 lines 42-49, col. 10 lines 21-31**); storing information indicative of the new direction and associated measured received signal strength in a memory(i.e., see **at least col. 4 lines 11-48, col. 7 lines 19-24, col. 10 lines 1-43, col. 11 line 12 and col. 12 line 15**); and displaying a receiving sensitivity graph which includes the direction and the associated received signal strength of the terminal(i.e., see **at least abstract , col. 3 lines 11-62, and col. 8 lines 57-59**).

However, Wiedeman does not teach displaying new measurements and at least one previously stored measurement.

In analogous art, Smith teaches displaying new measurements and at least one previously stored measurement (i.e., see at least paragraphs 0061 –0075).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Wiedeman to include displaying new measurements and at least one previously stored measurement for the purpose of analyzing the data represented by the previous and current measurements as taught by Smith.

Consider **claim 21** Wiedeman teaches a method, comprising: measuring associated received signal strengths when a mobile terminal is pointed in a plurality of directions (i.e., see **at least col. 7 lines 47-58, col. 9, col. 11 lines 4-12, in addition to abstract and summary of invention**); and displaying the associated received signal strengths in said plurality of directions

on the terminal (i.e., see at least col. 7 lines 47-58, col. 9, col. 11 lines 4-12 in addition to abstract and summary of invention).

However, Wiedeman does not teach displaying a plurality simultaneously.

In analogous art, Smith teaches displaying a plurality simultaneously (i.e., see at least paragraphs 0061 –0075).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Wiedeman to include a plurality simultaneously for the purpose of analyzing the data represented by the previous and current measurements as taught by Smith.

Consider **claims 24,36 and 39**, Wiedeman teaches mobile terminal 13 (i.e., see **figures**), and computer readable medium comprising: a detector that detects a current direction and the associated received signal strength when a terminal is pointed in a plurality of directions (i.e., see **various components of illustrated figures used in combination or alone to accomplish the task of detecting. Also see at least col. 3 lines 12 –27, col. 11 lines 41-47**); and a display which displays the current direction and received signal strength detected by the terminal (i.e., see at least **col. 3 lines 12 –27, col.11 lines 41-47**).

However, Wiedeman does not teach displaying a plurality simultaneously.

In analogous art, Smith teaches displaying a plurality simultaneously (i.e., see at least paragraphs 0061 –0075).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Wiedeman to include a plurality simultaneously for the

purpose of analyzing the data represented by the previous and current measurements as taught by Smith.

Consider **Claim 2 and as applied to the terminal of claim 1**, Wiedeman as modified by Smith teaches wherein the controller 13g (**figure 6**) controls the memory to store the newly-measured direction and corresponding received signal strength when a direction conversion angle of the terminal changes by more than a predetermined threshold value relative to a previous direction of the terminal (**i.e., at least col.12 lines 5 –18**).

Consider **Claim 3 and as applied to the terminal of claim 1**, Wiedeman as modified by Smith teaches wherein the receiving sensitivity graph displays the newly measured direction and corresponding received signal strength of the mobile terminal and at least one of a previous direction and received signal strength of the terminal recorded in the memory (**i.e., see at least figures 9a and 9b col. 7 lines 11-24**).

Consider **Claim 4 and as applied to the terminal of claim 1**, Wiedeman as modified by Smith teaches wherein the display unit displays a received signal strength indicator bar (**col. 8 line 42-45, and lines 57-62**).

Consider **Claim 5 and as applied to the terminal of claim 1**, Wiedeman as modified by Smith teaches wherein the receiving sensitivity graph displays the newly measured direction of the mobile terminal and corresponding receiving signal strength with a predetermined angle on a horizontal axis denoting east and west directions and a vertical axis denoting south and north directions(**i.e., see at least figures 9a and 9b col. 7 lines 11-24**).

Consider **Claim 7 and as applied to the terminal of claim 6**, Wiedeman as modified by Smith teaches wherein measuring the received signal strength comprises: checking whether a

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direction conversion angle exceeds a threshold value when the mobile terminal changes direction (i.e., see at least **figures 9a and 9b col. 7 lines 11-24**); and measuring a received signal strength of the changed direction when the angle exceeds the threshold value (i.e., see at least **figures 9a and 9b col. 7 lines 11-24**).

Consider **Claims 25 and as applied to the terminal of claim 24**, Wiedeman as modified by Smith teaches wherein said measuring includes: taking a difference between the current direction and a previous direction of the terminal (i.e., obstructed path versus an unobstructed path as seen in at least **col. 11 lines 41-46**); comparing the difference to a threshold value (i.e., in order to determine quality in terms of best and better then inherently there must be a threshold); and measuring the received signal strength only when the difference exceeds the threshold value (i.e., providing a better path when signal strength exceeds the ability to hold a call)(i.e., at least **col. 9 lines 7-59**).

Consider **Claim 26 and as applied to the terminal of claim 24**, Wiedeman as modified by Smith teaches the claimed invention further comprising: taking a difference between the current direction and a previous direction of the terminal (i.e., obstructed path versus an unobstructed path as seen in at least **col. 11 lines 41-46**); comparing the difference to a threshold value (i.e., in order to determine quality in terms of best and better then inherently there must be a threshold), wherein the current direction and received signal strength are displayed only when the difference exceeds the threshold value (i.e., see at least **col. 11 lines 41-47** wherein the user can enter via a display menu prompt the criteria of the display).

Consider **Claims 27 as applied to the terminal of claim 24**, Wiedeman as modified by Smith teaches wherein said displaying includes: displaying the current direction and received

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signal strength in a graph (col. 8 line 42-45, and lines 57-62 and at least figure 9a and 9b).

Consider **Claims 28 and as applied to the terminal of claims 27**, Wiedeman as modified by Smith teaches wherein the graph includes a pointer which indicates the current direction of the terminal (col. 9 lines 1-5 and at least figures 2-5, 9a and 9b)

Consider **Claims 30 and as applied to the terminal of claims 24**, Wiedeman teaches wherein said displaying further includes: displaying at least one of a previous direction and received signal strength of the terminal (i.e., see at least figures 2-5, 9a and 9b and col.7 lines 25 -46).

Consider **Claims 31 and as applied to the terminal of claims 30**, Wiedeman teaches wherein said at least one of a previous direction and received signal strength are displayed with the current direction and received signal strength (i.e., see at least figures 2-5, 9a and 9b and col.7 lines 25 -46).

However, Wiedeman does not teach displaying a plurality simultaneously.

In analogous art, Smith teaches displaying a plurality simultaneously (i.e., see at least paragraphs 0061 -0075).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Wiedeman to include a plurality simultaneously for the purpose of analyzing the data represented by the previous and current measurements as taught by Smith.

Consider **Claims 32 and as applied to the terminal of claims 24**, Wiedeman as modified by Smith teaches wherein said displaying includes: displaying a graph having a first data point representing the current direction and received signal strength and a plurality of

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additional data points representing previous directions and corresponding received signal strengths (i.e., see at least **figures 2-5, 9a and 9b and col.7 lines 25 -46**).

Consider **Claims 33 and as applied to the terminal of claims 32**, Wiedeman as modified by Smith teaches wherein the first and additional data points are connected to form an area graph which provides a visual indication of a direction in which a strongest received signal strength exists for the terminal (i.e., see at least **figures 2-5, 9a and 9b and col.7 lines 25 -46**).

Consider **Claims 34 and as applied to the terminal of claims 24**, Wiedeman as modified by Smith teaches displaying an area graph at least partially based on the current direction and signal strength, wherein the area graph includes a peak which indicates a direction in which a strongest received signal strength exists for the terminal (i.e., see at least **figures 2-5, 9a and 9b and col.7 lines 25 -46**).

Consider **Claims 35 and as applied to the terminal of claims 34**, Wiedeman as modified by Smith teaches wherein the current direction and received signal strength is different from the strongest received signal strength (i.e., **user terminal in an area obstructing line of sight see at least see at least figures 2-5, 9a and 9b and col.7 lines 25 -46**)

Consider **Claim 22 and 37 and as applied to the terminal of claims 21 and 36**, Wiedeman as modified by Smith teaches wherein said displaying includes: displaying an area graph representing the received signal strengths in said directions(i.e., see at least **figures 2-5, 9a and 9b and col.7 lines 25 -46**).

Consider **Claims 23 and 38 and as applied to the terminal of claims 22 and 37**, Wiedeman as modified by Smith teaches wherein said displaying includes: identifying a current direction and received signal strength of the terminal on the graph (i.e., see at least **figures 2-5,**

9a and 9b and col.7 lines 25 -46).

Consider **Claim 40 and as applied to the computer-readable medium of claim 39**, Wiedeman as modified by Smith teaches wherein the medium is an integrated circuit chip (i.e., col. 5 line 38 see figure 6 or figure 7).

Claims 9-11, 17-20, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Wiedeman et al. US Patent 6,272,316 B1, "Wiedeman", hereinafter in view of Smith et al., US Patent Pub. No.: 2003/0187523 A1, hereinafter, 'Smith' and further in view of Macphail US Patent Pub. No. 2004/0167714 and further in view of Pilley et al. US Patent No.: 6,182,005 B1

Consider **claim 9**, Wiedeman teaches a method, comprising: measuring a current direction of a mobile terminal and an associated received signal strength in the current direction (i.e., see at least col. 8 lines 42-49, col. 10 lines 21-31 in addition to abstract and summary of invention); and displaying the current direction and associated received signal strength on the terminal and a pointer indicating signal strength (i.e., with respect to the sat position since the Sat pointer exist due to the detection of a Sat, where the detection further detects signal strength)(i.e., see at least abstract, col. 3 lines 11-62, and col. 8 lines 57-59 in addition to abstract and summary of invention).

However, Wiedeman does not teach displaying new measurements and at least one previously stored measurement.

In analogous art, Smith teaches displaying new measurements and at least one previously stored measurement (i.e., see at least paragraphs 0061 -0075).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Wiedeman to include displaying new measurements and at

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least one previously stored measurement for the purpose of analyzing the data represented by the previous and current measurements as taught by Smith.

However, Wiedeman as modified by Smith does not specifically teach a graph including a pointer which indicates the current direction of the terminal and at least one pointer for each at least one previous measured direction.

In analogous art, Macphail teaches a graph including a pointer which indicates the current direction of the terminal and at least one pointer for each at least one previous measured direction (i.e., see at least figure 1b and 3).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Wiedeman as modified by Smith to include a graph including a pointer which indicates the current direction of the terminal and at least one pointer for each at least one previous measured direction for the purpose of indicating a device orientation as taught by Macphil.

However, Wiedeman as modified by Smith as further modified by Macphail does not specifically teach the length of the pointer as an indicator.

In analogous art, Pilley et al. teaches the length of the pointer as an indicator (col. 77 lines 13-16).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Wiedeman as modified by Smith as further modified by Macphail to teach the length of the pointer as an indicator for the purpose of navigation as taught by Pilley et al.

Consider **Claims 10 and as applied to the terminal of claim 9**, Wiedeman as modified by Smith as further modified by Macphail and further modified by Pilley et al. teaches wherein said measuring includes: taking a difference between the current direction and a previous direction of the terminal (i.e., obstructed path versus an unobstructed path as seen in at least **col. 11 lines 41-46**); comparing the difference to a threshold value (i.e., in order to determine quality in terms of best and better then inherently there must be a threshold); and measuring the received signal strength only when the difference exceeds the threshold value (i.e., providing a better path when signal strength exceeds the ability to hold a call)(i.e., at least **col. 9 lines 7-59**).

Consider **Claim 11 and as applied to the terminal of claim 9**, Wiedeman as modified by Smith as further modified by Macphail and further modified by Pilley et al. teaches the claimed invention further comprising: taking a difference between the current direction and a previous direction of the terminal (i.e., obstructed path versus an unobstructed path as seen in at least **col. 11 lines 41-46**); comparing the difference to a threshold value (i.e., in order to determine quality in terms of best and better then inherently there must be a threshold), wherein the current direction and received signal strength are displayed only when the difference exceeds the threshold value (i.e., see at least **col. 11 lines 41-47** wherein the user can enter via a display menu prompt the criteria of the display).

Consider **Claims 17 and as applied to the terminal of claims 9**, Wiedeman as modified by Smith as further modified by Macphail and further modified by Pilley et al. teaches wherein said displaying includes: displaying a graph having a first data point representing the current direction and received signal strength and a plurality of additional data points representing previous directions and corresponding received signal strengths (i.e., see at least **figures 2-5, 9a and 9b**

and col.7 lines 25 -46).

Consider **Claims 18 and as applied to the terminal of claims 17**, Wiedeman as modified by Smith as further modified by Macphail and further modified by Pilley et al. teaches wherein the first and additional data points are connected to form an area graph which provides a visual indication of a direction in which a strongest received signal strength exists for the terminal (i.e., see at least figures 2-5, 9a and 9b and col.7 lines 25 -46).

Consider **Claims 19 and as applied to the terminal of claims 9**, Wiedeman as modified by Smith as further modified by Macphail and further modified by Pilley et al. teaches displaying an area graph at least partially based on the current direction and signal strength, wherein the area graph includes a peak which indicates a direction in which a strongest received signal strength exists for the terminal (i.e., see at least figures 2-5, 9a and 9b and col.7 lines 25 -46).

Consider **Claims 20 and as applied to the terminal of claims 19**, Wiedeman as modified by Smith as further modified by Macphail and further modified by Pilley et al. teaches teaches wherein the current direction and received signal strength is different from the strongest received signal strength (i.e., user terminal in an area obstructing line of sight see at least see at least figures 2-5, 9a and 9b and col.7 lines 25 -46)

Consider **Claims 29 and as applied to the terminal of claims 28**, Wiedeman as modified by Smith as modified by Macphail teaches the claimed invention except wherein a length of the pointer indicates the received signal strength of the terminal in the current direction (i.e., see at least col. 9 lines 1-5 and at least figures 2-5, 9a and 9b).

In analogous art, Pilley et al. teaches the length of the pointer as an indicator (col. 77 lines 13-16).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Wiedeman as modified by Smith as further modified by Macphail to teach the length of the pointer as an indicator for the purpose of navigation as taught by Pilley et al.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

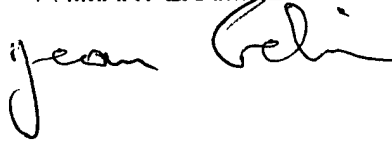
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Shedrick whose telephone number is (571)-272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kincaid Lester can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Charles Shedrick
AU 2617
November 13, 2006

JEAN GELIN
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read "jean gelin", written in a cursive style.